

Per- and Polyfluoroalkyl Substances
(PFAS)

Research Update:

Collaboration with
The Ohio State University

National Exposure Research Laboratory
Exposure Methods and Measurement Division
November 6, 2017

Collaboration with Ohio State University

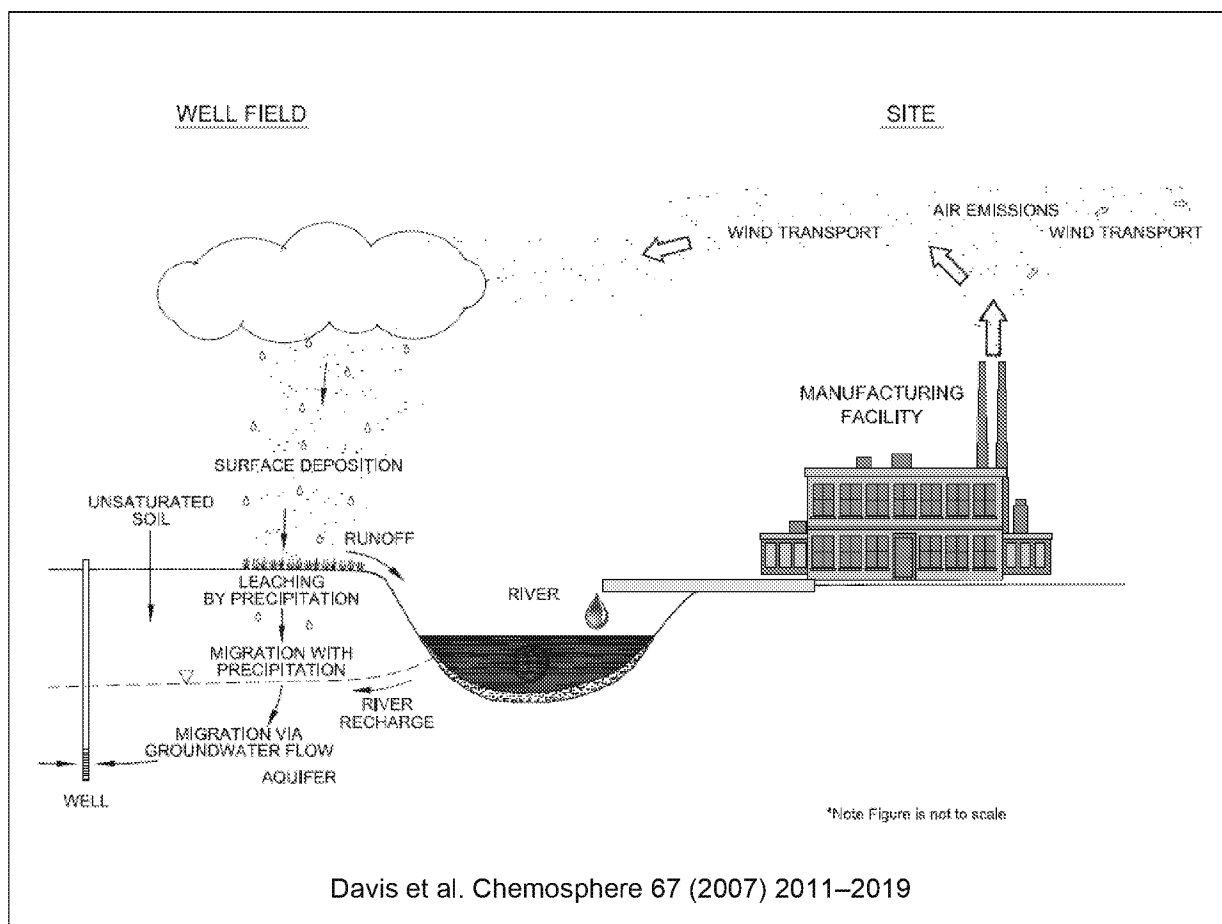
OSU student Jason Galloway contacted NERL researchers after reading *Intercept* article on Strynar et al. (2015) publication on GenX contamination in Cape Fear River, May 2016

Directed work to Dr. Linda Weavers, Civil and Environmental Engineering Department

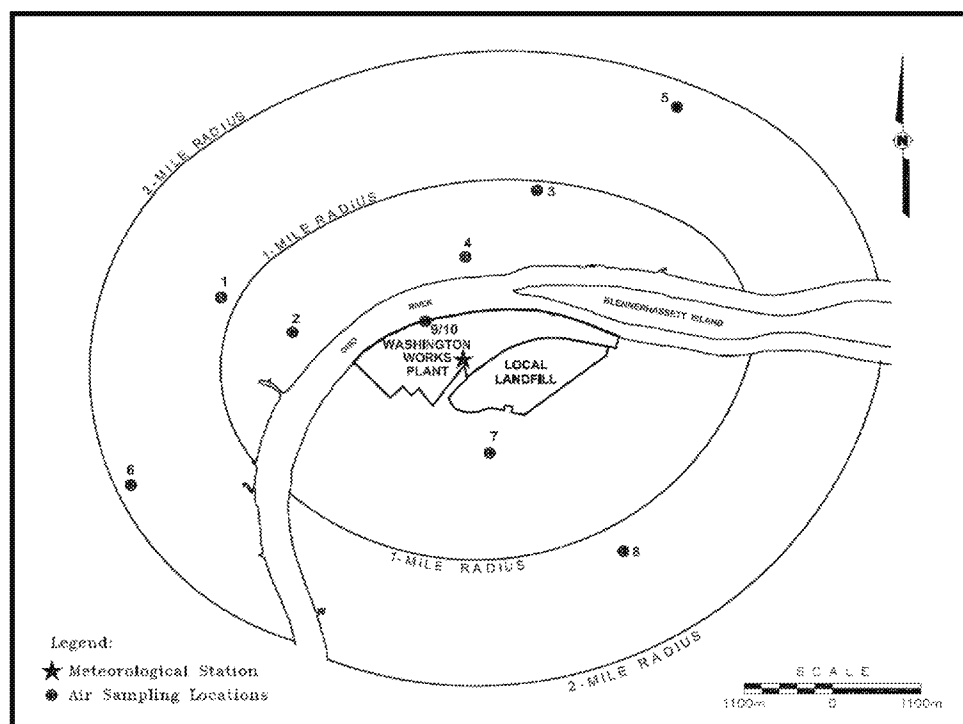
Three rounds of field sampling and analysis summer and fall of 2016, OSU collection and analysis, EPA equipment and mentoring

Evolving scope and focus: initial concern of undocumented legacy PFOA contamination expanded after discovery of GenX

Presentation of preliminary findings at Northeastern University conference in June 2017, draft manuscript in preparation



Previous Monitoring Around Washington Works



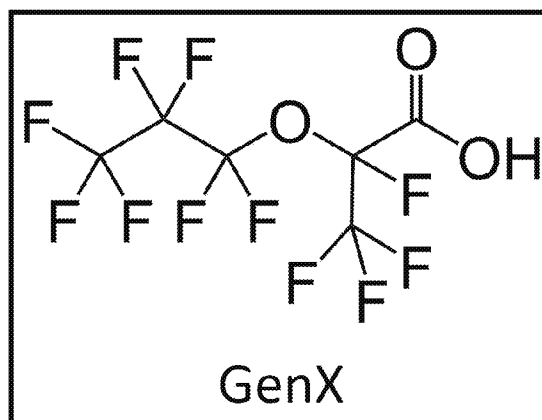
Barton et al. *Journal of the Air & Waste Management Association* 2010, 60, 402–411

GenX

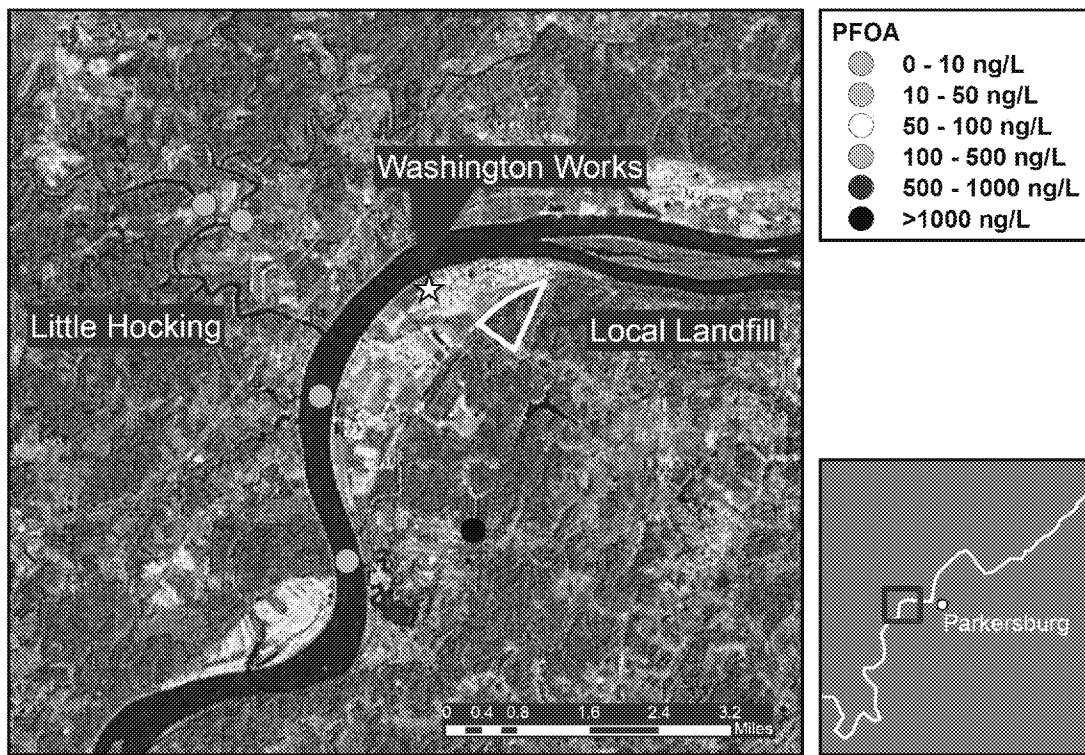
Approved for use as a PFOA
replacement in 2009

Still persistent, still toxic, but apparently less bioaccumulative than PFOA

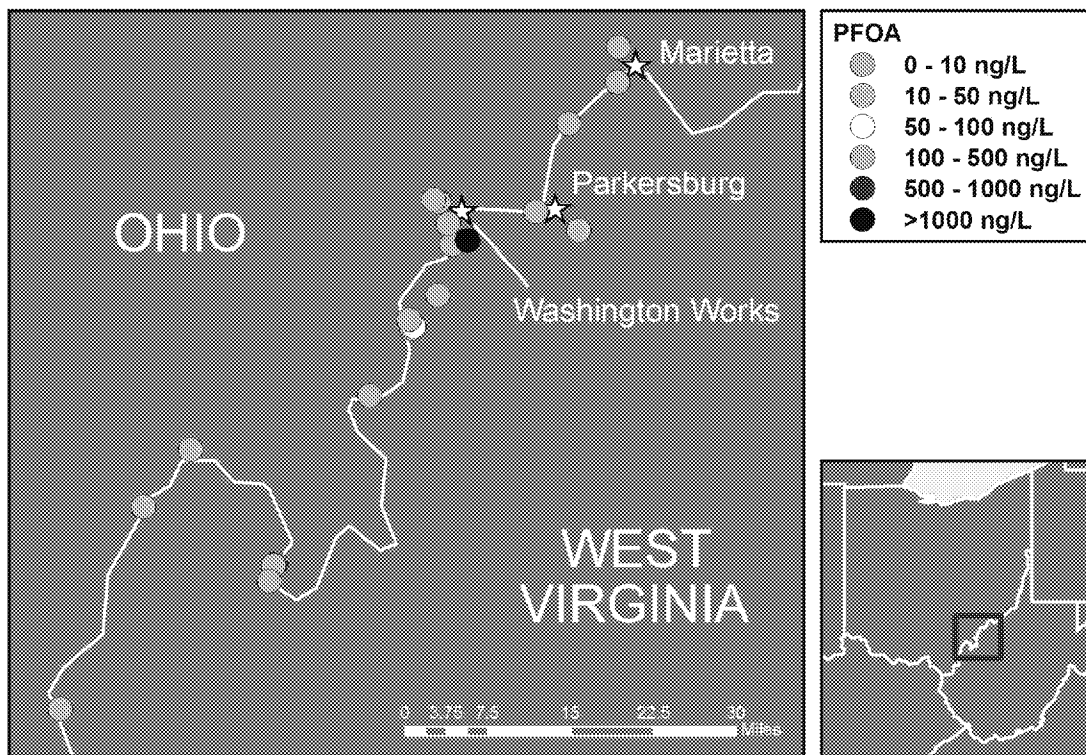
DuPont studies found effects on rats similar to PFOA, including possible endocrine/immune disruption, enlarged livers and kidneys, and cancer



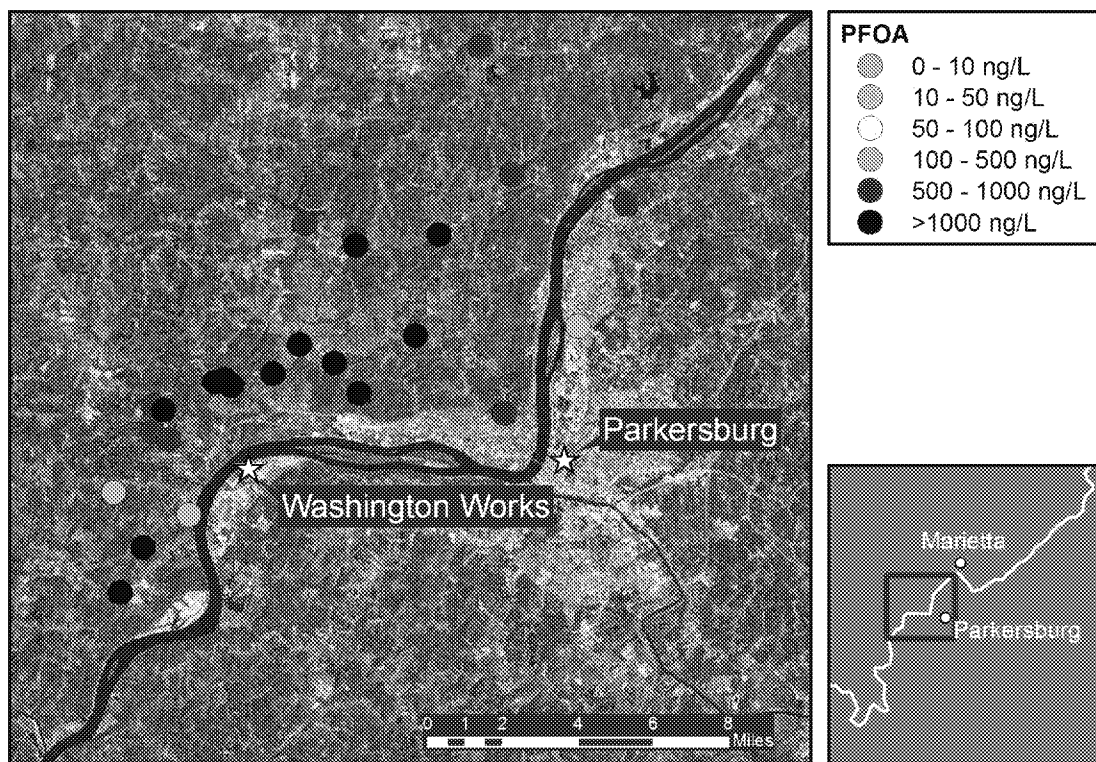
Ohio River Results (Detail)



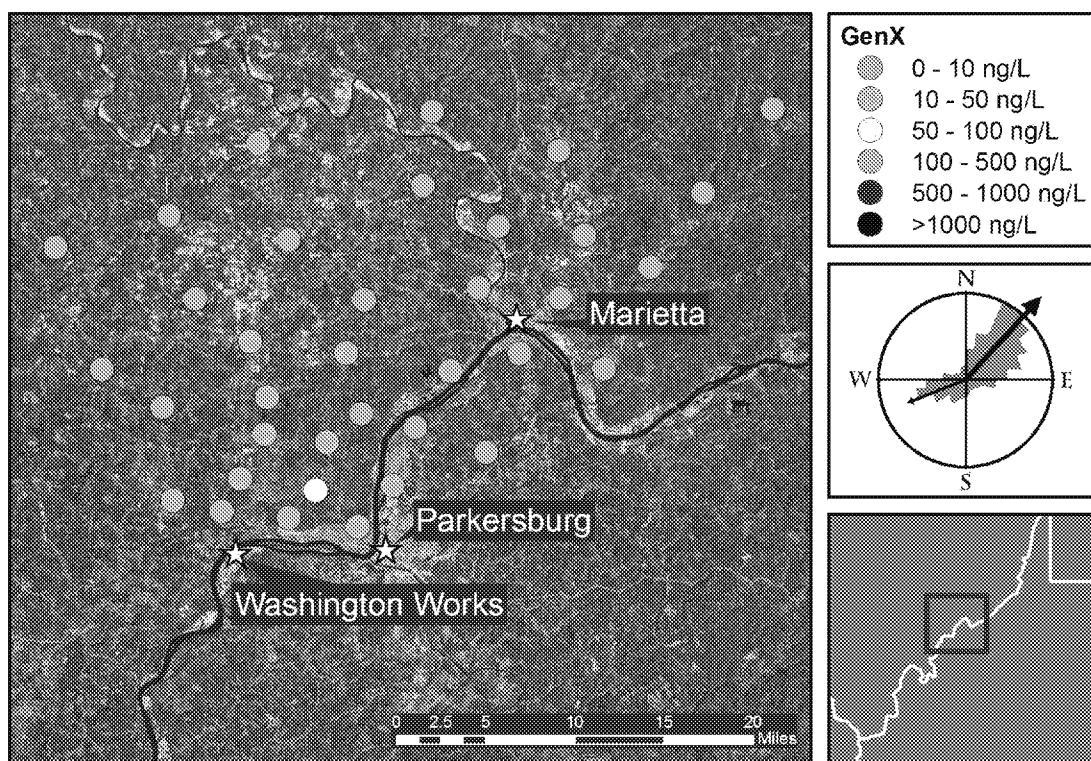
Ohio River Results



Little Hocking Results



Extended Sampling Results



Conclusions with Ohio State University

The presence of significant levels of PFOA (>100 ng/L) in surface water more than 15 miles from the facility and quantifiable levels (>10 ng/L) more than 25 miles away suggests contamination may be more extensive than originally thought

The discovery of GenX at many of the collection sites suggests the replacement PFAS is contaminating the local environment via air deposition as well

More testing is needed – especially private well water between the boundaries of the Little Hocking Public Water district and the Muskingum River

Communications: ORD has briefed R5 (Kim Harris), R3 (Rick Rogers), Ohio EPA, manuscript in preparation

Questions?

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